

LIII.—*The Systematic Position of Stylophorus caudatus*.

By C. TATE REGAN, M.A.

IN a recent paper (P. Z. S. 1907, p. 634) I proposed the name Allotriognathi for a new suborder of Teleostean Fishes to include the Selenichthyes (Lamprididæ), Histichthyes (Veliferidæ), and Tæniosomi (Trachypteridæ and Lophotidæ). Of the Stylophoridæ I could only say (p. 643): "The remarkable *Stylophorus* has usually been placed with or near the Trachypteridæ; the single known specimen is not in good enough condition for me to offer any suggestion as to its relationships."

By a remarkable coincidence Dr. E. C. Starks, of Stanford University, was at that time engaged in describing the anatomy of a second example of *Stylophorus caudatus*, captured to the south of the Galapagos Islands at a depth of 300 fathoms*. The results of his researches have just come to hand in the form of an illustrated memoir entitled "The Characters of Atelaxia, a new Suborder of Fishes" (Bull. Mus. Comp. Zool. lii. 1908, p. 17). This leaves no doubt that *Stylophorus* is a highly specialized Tæniosome, and the definition of the Allotriognathi may be modified in order to include this aberrant form, the Atelaxia ranking with the Selenichthyes, Histichthyes, and Tæniosomi, as a fourth division of the suborder.

The diagnosis of the Allotriognathi, emended in order to include *Stylophorus*, is as follows:—

"Supra-occipital well-developed, separating the parietals; no opisthotic. Maxillaries typically free, protractile, each with an outer blade and an inner posterior process; no supramaxillaries; lower jaw composed of dentary, articulare and angulare. Palatine, if present, without maxillary process. Vertebral column of solid centra which are co-ossified with the arches. Gills pectinate. Pectoral arch attached to the cranium; no mesocoracoid; post-clavicle elongate, of a single piece. Air-bladder without duct. Fins without true spines (except sometimes the first one or two rays of the dorsal); pectoral fin with horizontal or subhorizontal base; pelvic fins, if present, below or a little behind the pectorals, formed of from one to seventeen articulated rays; pelvis, if present, comprising a pair of erect subtriangular bony plates,

* The type in the British Museum was taken between Cuba and Martinique more than 100 years ago.

inserted in the ligament between the coracoids and sometimes directly articulated with them."

Stylophorus agrees with the Tæniosomi and differs from the other Allotriognathi in the following characters:—

"Body elongate. Skeleton feebly ossified; ribs feeble or absent; lower pharyngeals reduced, toothless. No occipital crest. Post-temporal simple; pectoral pterygials plate-like, two or three of them in contact with the coracoid. Fins composed of simple flexible non-articulated rays; dorsal fin very long; anal short or absent *".

Stylophorus differs from the Tæniosomi in several respects, of which the most important are the moderately compressed body, which is eel-shaped rather than ribbon-shaped; the very long lower jaw and backwardly directed suspensorium, correlated with which is the reduction of the pterygo-palatine arcade to a single small pterygoid element and the shifting of the attachment of the branchiostegals from the lower to the upper edge of the cerato-hyal; the cranium more depressed posteriorly, with the epiotics separated by the supra-occipital †, the frontals united by suture throughout their length, the orbito-sphenoid absent and the vomer very small, in position corresponding to the posterior extremity of the vomer in the Tæniosomi; the absence of neural and hæmal spines and the fewer vertebrae, 53 in number.

A special resemblance to *Trachypterus* is shown in the structure of the caudal fin, which is divided into a lower portion with horizontal rays and an upper portion with the rays directed upwards.

I take this opportunity of calling attention to an excellent account of the anatomy of *Trachypterus arcticus* by Mr. A. Meek ('Studies Mus. Zool. Dundee,' i. 1890, pp. 55-77, pls. i. & ii.) which I had previously overlooked and which Dr. Starks also does not seem to have known.

Dr. Starks is to be congratulated on having given us so complete and careful an account of the anatomy of this peculiar type, but his method of presenting his results is open to criticism. His diagnosis of the suborder Atelaxia does not give any clue as to its position in the system, and consists almost exclusively of those features which distinguish it from the Tæniosomi, whilst those characters which the two groups have in common are regarded as of minor importance and are

* The anal fin is said to be absent in *Stylophorus*, but Stark's figure shows an anal fin with 12 rays in the middle of the length of the fish; this seems to be an instance of "artistic licence."

† The meeting of the epiotics behind the supraoccipital is often due to the elevation of the posterior part of the cranium.

included in the definition of the family Stylophoridae. Systematic ichthyologists in America emphasize differences rather than resemblances, but this may be carried too far, and I think the important features in the anatomy of *Stylophorus* are those which establish its relationship to the Tæniosomi, whilst its unique characters are of interest only as showing the remarkable specialization which the Tæniosome type is capable of attaining.

LIV.—*Description of a new Species of Charaxes from the Cameroons, West Africa.* By HERBERT DRUCE, F.L.S. &c.

Charaxes acraeoides, sp. n.

Male.—Head black, with four yellow spots, two on each side above the eye; antennæ black; collar, tegulae, thorax, and abdomen black; a white spot on the thorax just behind the collar and two yellow spots on each side of the thorax; palpi above black, the underside orange-yellow; the underside of the thorax and abdomen orange-yellow; the legs black. Primaries black, crossed near the apex by a band of four elongated cream-coloured spots, the inner margin streaked with red, above which are five large red spots, the one nearest the anal angle the largest: secondaries red, black at the base and partly along the inner margin, the anal angle and part of the inner margin cream-colour; a black streak at the end of the cell, with the black spots on the underside showing through; the outer margin from the apex to the anal angle black, with a series of minute white dots in the middle of the black margin. Underside: primaries, the apical part of the wing pale yellowish brown, the veins and streaks between the veins black; the cream-coloured band as above, edged on the inner side by a band of black spots which extend along the outer margin to the anal angle; the cell and the central part of wing greenish grey; the usual black marks in the cell; the wing below the cell to the inner margin orange-red: secondaries orange-red, palest above the cell and above the anal angle; the outer margins and veins all black; four large black spots on the costal margin, four in the cell, and a row of five partly round the outside of the cell; the black outer margin is spotted with blue and greenish-grey dots.

Expanse $4\frac{1}{2}$ inches.

Hab. Cameroons, Bitje, Ja River, 2000 feet; wet season (*Mus. Druce*).

This very fine species reminds one at first sight of *Pseudacraea clarki*, Butler, which also came in the collection.